

Job Name: \_\_\_\_\_ Job Site Location: \_\_\_\_\_

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_ Foreman/Supervisor: \_\_\_\_\_

## **Topic 79: Chest Compressions**

**Introduction:** The air we breathe travels to our lungs, where oxygen is picked up by our blood, and then pumped by the heart to our tissue and organs. Cardiac arrest (heart arrest) is an abrupt cessation of the heart. Without immediate, effective chest compressions, a person's chance of surviving sudden cardiac arrest decreases 7 to 10 percent per minute. Causes of sudden cardiac arrest can include electrocution and asphyxiation (loss of consciousness caused by inadequate oxygen in the work environment, such as in a confined space). Symptoms can include shortness of breath, sweating, nausea, rapid heartbeat, often complicated by one or more irregular heartbeats, reduced blood pressure, and a sense of impending doom.

Unfortunately, on average, less than one-third of cardiac arrest victims receive chest compressions, which can double or triple a person's chance of surviving. Many times workers do not help because they are afraid that they will hurt the victim and are not confident in what they are doing.

When a worker experiences cardiac arrest, whether due to heart failure or an injury, the heart goes from a normal beat to an arrhythmic pattern called ventricular fibrillation, and eventually ceases to beat altogether. This prevents oxygen from circulating throughout the body, rapidly killing cells and tissue. Once the heart ceases to function, a healthy human brain may survive without oxygen for up to 4 minutes without suffering any permanent damage. Unfortunately, a typical EMS response may take 6, 8, or even 10 minutes. It is during those critical minutes that chest compressions can provide oxygenated blood to the victim's brain and the heart, dramatically increasing their chance of survival.

- 0-4 minutes: brain damage unlikely
- 4-6 minutes: brain damage possible

- 6-10 minutes: brain damage probable
- over 10 minutes: probable brain death

It is critical to remember that dialing 911 may be the most important step you can take to save a life. If someone besides you is present, they should dial 911 immediately. If you are alone with the victim, try to call for help prior to starting chest compressions.

### **Provide the operator with:**

1. Your location
2. Your phone number
3. Type of emergency
4. Victim's condition

If you suspect that the victim has sustained spinal or neck injury, do not move or shake him. Otherwise, shake the victim gently and shout "Are you okay?" to see if there is any response. If the victim is someone you know, call out their name as you shake them.

In order to determine if the victim's heart is beating, place two fingertips on the carotid artery, located in the depression between the windpipe and the neck muscles, and apply slight pressure for several seconds. If there is no pulse then the victim's heart is not beating.

### **When performing chest compressions, proper hand placement is very important.**

- To locate the correct hand position, place two fingers at the sternum (the spot where the lower ribs meet) then put the heel of your other hand next to your fingers. Place one hand on top of the other and interlace the fingers.
- Lock your elbows and using your body's weight, compress the victim's chest. Push down firmly with only the heel of your hand touching the chest, then release. The depth of compressions should be approximately 1½ to 2 inches.
- If you feel or hear slight cracking sound, you may be pressing too hard. Do not become alarmed and do not stop. Damaged cartilage or cracked ribs are far less serious than a lost life. Simply apply less pressure as you continue compressions.
- Count as you compress continually at the rate of about 3 compressions for every 2 seconds or 100 times a minute.
- Continue performing compressions until help arrives.

### **Remember:** Do not leave the victim alone.

- Do not try to make the victim drink water.
- Do not prompt the victim into a sitting position.
- Do not throw water on the victim's face.
- Do not try to revive the victim by slapping the face.

**Conclusion:** Workers should receive First Aid Training once a year. Never exceed your training level of First Aid.

## **Work Site Review**

Work-Site Hazards and Safety Suggestions: \_\_\_\_\_

Personnel Safety Violations: \_\_\_\_\_

Material Safety Data Sheets Reviewed: \_\_\_\_\_ (Name of Chemical)

### **Employee Signatures:**

*(My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)*

_____	_____	_____
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_____	_____	_____
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*These guidelines do not supercede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.*